Using Master Data to Create Xcelsius Dashboards

Applies to:

BusinessObjects - Xcelsius. For more information, visit the [Business Objects homepage](#).

Summary

This paper explains how Master Data can be used effectively to create Xcelsius Dashboards. This paper explains the simple Excel formulas that can be used so thousands of rows of data can be used to create Xcelsius Dashboards.

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Introduction

The task is to create a dashboard on thousands of rows of data. It is possible to use Master Data and a few Excel formulas to effectively create a working dashboard on a large dataset.

Scenario

A company is divided into seven areas and has 14 products. (A small dataset is used here just for illustration. As mentioned above, this can also be accomplished for a much larger dataset incorporating more characteristics.)

Workbook

Queries in the Workbook and Tabs

Tab 1: Master Data

Create two Master Data queries for Products and for Areas with Key and Description. Replace headers with "All Products" and "Company" in the workbook. Name this worksheet tab as "Master Data".

Tab 2: Summary by Area

Create a query with Area, Product, and Sales Value by quarter for current year. Place this query in the worksheet "Summary by Area". The overall result should be at the top of the query output.

	A	B	C	D	E	F	G
1	**Summary by Area**						
2							
3	Row #	Area	Product	Sales (Value)			
4				Q1 2009	Q2 2009	Q3 2009	Q4 2009
5			Overall Result	$ 19,251,964	$19,694,929	$19,131,976	$19,315,808
6	1	10	P1348930	$ 1,304	$ 34,892	$ 1,460	$ 1,382
7	2	10	P1348931	$ 5,764	$ 128,742	$ 6,456	$ 6,110
8	3	10	P1348932	$ 14,566	$ 320,948	$ 16,314	$ 15,440
9	4	10	P1348933	$ 234,567	$ 100,928	$ 262,715	$ 248,641
10	5	10	P1348934	$ 12,368	$ 3,044	$ 13,852	$ 13,110
11	6	10	P1348935	$ 132,414	$ 73,963	$ 148,304	$ 140,359
12	7	10	P1348936	$ 23,526	$ 309,601	$ 26,349	$ 24,938
13	8	10	P1348937	$ 9,834	$ 109,283	$ 11,014	$ 10,424
14	9	10	P1348938	$ 424,352	$ 23,018	$ 475,274	$ 449,813
15	10	10	P1348939	$ 400,913	$ 23,098	$ 449,023	$ 424,968

Summary by Product \ **Summary by Area** / Master Data / Dashboard Values /

Tab 3: Summary by Product

Create a query with Product, Area and Sales Value by quarter for current year. Place this query in the worksheet "Summary by Product". The overall result should be at the top of the query output.

	A	B	C	D	E	F	G
1	**Summary by Product**						
2							
3	Row #	Product	Area	Sales (Value)			
4				Q1 2009	Q2 2009	Q3 2009	Q4 2009
5		Overall Result		$19,251,964	$19,694,929	$19,131,976	$19,315,808
6	1	P1348930	10	$ 1,304	$ 34,892	$ 1,460	$ 1,382
7	2	P1348930	11	$ 463,578	$ 180,456	$ 519,207	$ 491,393
8	3	P1348930	12	$ 241,663	$ 45,625	$ 119,138	$ 239,616
9	4	P1348930	13	$ 181,529	$ 168,002	$ 365,715	$ 221,773
10	5	P1348930	14	$ 213,437	$ 185,961	$ 190,319	$ 212,202
11	6	P1348930	15	$ 211,402	$ 198,455	$ 195,595	$ 204,812
12	7	P1348930	16	$ 216,136	$ 212,653	$ 203,432	$ 211,791
13	8	P1348931	10	$ 5,764	$ 128,742	$ 6,456	$ 6,110
14	9	P1348931	11	$ 42,344	$ 28,200	$ 47,425	$ 44,885
15	10	P1348931	12	$ 138,808	$ 206,340	$ 175,989	$ 183,092

Summary by Product / Summary by Area / Master Data / Dashboard Values /

Tab 4: Dashboard Values

Create a table with columns Description and Key and rows Area and Product. Copy the formula below to derive the Key value from Master Data.

- For deriving Area key use the INDEX & MATCH Formula.

    =IF(F3="","",INDEX('Master Data'!E4:E11,MATCH($F$3,'Master Data'!F4:F11,0),1))

- For deriving the Product Key use the INDEX & MATCH Formula.

    =IF(F4="","",INDEX('Master Data'!B4:B18,MATCH($F$4,'Master Data'!C4:C18,0),1))

Formulas in Each of the Tabs

Summary by Area

	I	J	K	L	M	N	O	P	Q
2			Column Number	1	2	3	4	5	6
3				Area	Product	Sales (Units)			
4	First Row	Count of Rows	Row Number			Q1 2009	Q2 2009	Q3 2009	Q4 2009
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19			Overall Result	Area	All Products				

Tabs: Summary by Product | **Summary by Area** | Master Data

=MATCH('Dashboard Values'!$G$3,$B$6:$B$103,0)

=COUNTIF($B$6:$B$103,'Dashboard Values'!$G$3)

=I5

Sum of Values in above rows

=IF(K5="","",IF(K5+1>($I$5+$J$5-1),"",K5+1))

=IF(K5="","",INDEX($B$6:$G$103,$K5,L$2))

- Have column numbers from 1 to 6 for Product, Area and the four quarters of 2009.

- To know the row number of first occurrence of the Area, use the formula
  =MATCH('Dashboard Values'!$G$3,$B$6:$B$103,0)

- To know the number of rows the Area recurred, use the formula
  =COUNTIF($B$6:$B$103,'Dashboard Values'!$G$3)

- To know the first row number, use formula **=I5**

- To know the row numbers where Area recurred, use formula
  =IF(K5="","",IF(K5+1>($I$5+$J$5-1),"",K5+1))

- To fill the Area, Product and Sales Values by Quarter for the selected Area and all the products, use the formula
  =IF(K5="","",INDEX($B$6:$G$103,$K5,L$2))

- To know the total of sales of all the products for the selected area, use the formula
  =SUM(N5:N18), =SUM(O5:O18), =SUM(P5:P18) & =SUM(Q5:Q18).

Summary by Product

	I	J	K	L	M	N	O	P	Q
2			**Column Number**	1	2	3	4	5	6
3				**Product**	**Area**	**Sales (Units)**			
4	**First Row**	**Count of Rows**	**Row Number**			Q1 2009	Q2 2009	Q3 2009	Q4 2009
5									
6									
7									
8									
9									
10									
11									
12				Overall Result	All Products	Company			
13									

Tabs: **Summary by Product** / Summary by Area / Master Data / Dashboard Values /

=MATCH('Dashboard Values'!$G$4,$B$6:$B$103,0)

=COUNTIF($B$6:$B$103,'Dashboard Values'!$G$4)

=I5

=IF(K5="","",IF(K5+1>($I$5+$J$5-1),"",K5+1))

=IF(K5="","",INDEX($B$6:$G$103,$K5,L$2))

Sum of the values in the above rows.

Have column numbers from 1 to 6 for Product, Area and the four quarters of 2009.

· To know the row number of 1st occurrence of the Area, use the formula

=MATCH('Dashboard Values'!$G$4,$B$6:$B$103,0)

· To know the number of rows the Area recurred, use the formula

=COUNTIF($B$6:$B$103,'Dashboard Values'!$G$4)

· To know the first row number, use formula **=I5.**

· To know the row numbers where Area recurred, use formula

=IF(K5="","",IF(K5+1>($I$5+$J$5-1),"",K5+1))

· To fill the Area, Product and Sales Values by Quarter for the selected Area and all the products, use the formula

=IF(K5="","",INDEX($B$6:$G$103,$K5,L$2))

· To know the total of sales of all the products for the selected area, use the formula

=SUM(N5:N11), =SUM(O5:O11), =SUM(P5:P11) & =SUM(Q5:Q11)

Dashboard Values

- There are four possibilities for dashboard values:
  Area = "Company", Product = "All Products" – Displays quarterly sales for the entire company for all the products together.

  - o Derive Area & Product from the selections.
  - o Derive the Quarterly sales from Summary by Area tab for Company and All Products.

- **Area = "Company", Product NE "All Products"** – Display quarterly sales for the entire company for the selected single product.
- **Area NE "Company", Product = "All Products"** – Display quarterly sales for the Selected Area and the entire range of products.

- o Use the MATCH formula to know the first row of occurrence of the selected Product in the Summary by Area tab.
- o Use the COUNTIF formula to know the number of times the product recurred in the above table.
- o Use INDEX & MATCH formula to derive the quarterly sales values from the above table based on the selected Area and Product.

- o If the there are no sales figures for the given selections, the Formula will return "#N/A". To not display this we can use formula – ISNA to display <blank> if #N/A is returned.

- **Area NE "Company", Product NE "All Products"** – Display quarterly sales for the selected Area and the selected Product.

- o Derive Area & Product from the selections.
- o Derive the quarterly sales from Summary by Area tab for Company and All Products.

In the **To the Dashboard** section, use an IF statement to populate the final table based on the selections made.

Xcelsius Dashboard

1. Import the workbook to Xcelsius.
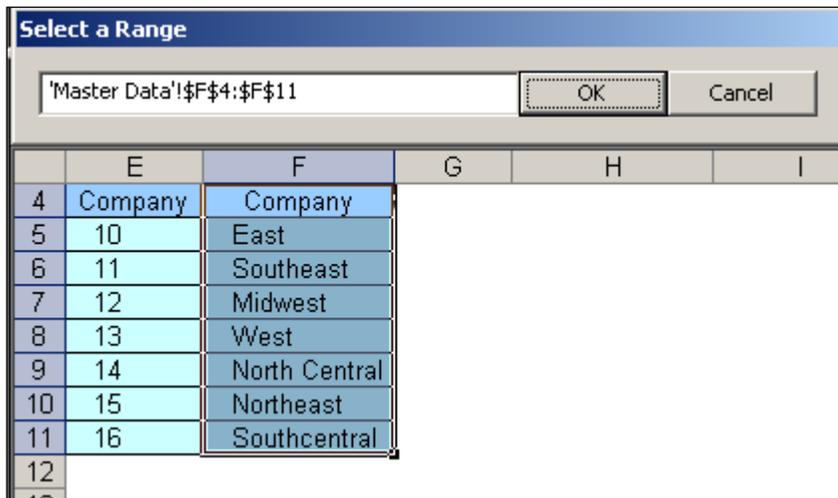2. Drop two **Combo Boxes** into the canvas.
3. Select the first **Combo Box** (Combo Box 1). Set Insertion Type to **Filtered Rows**.
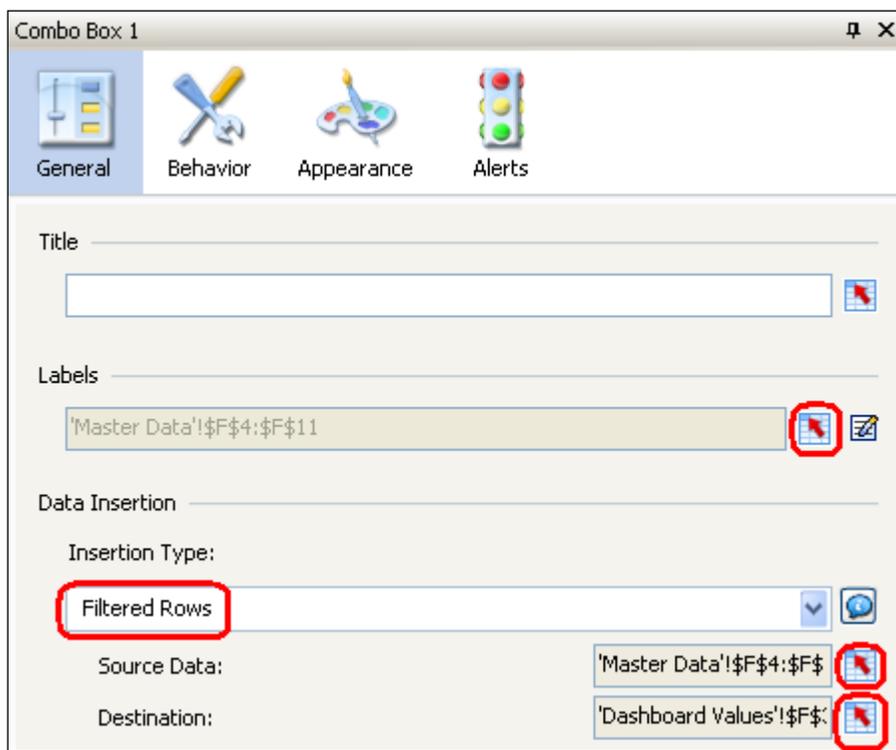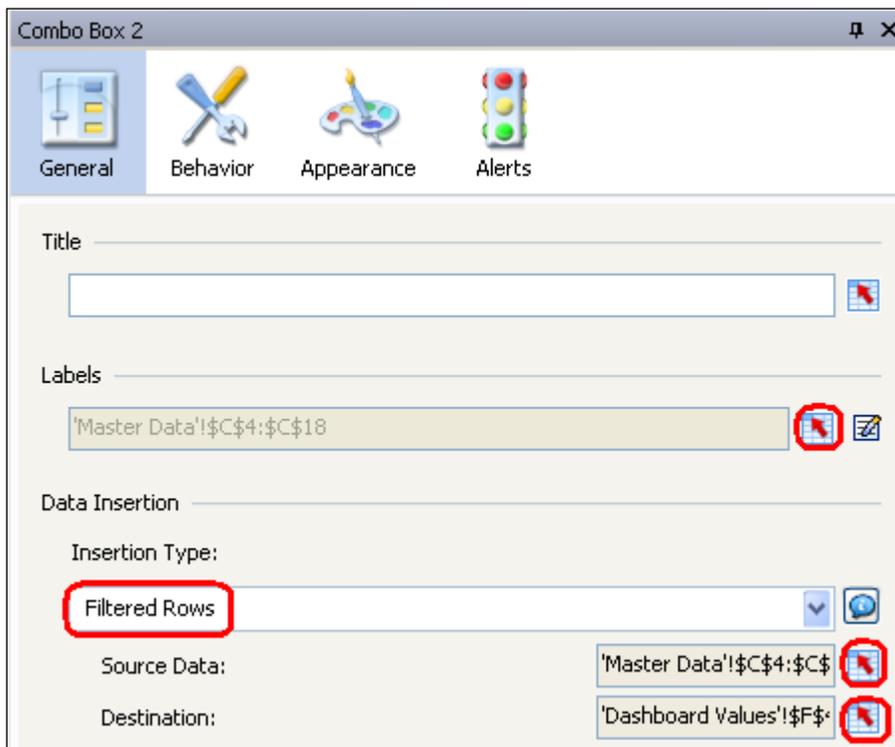

4. Select **Labels**. Select **'Master Data'!$F$4:$F$11**.

5. Select **Source Data**. Select **'Master Data'!$F$4:$F$11**.

6. Select **Destination**. Select **'Dashboard Values'!$F$3**.
7. Select the second **Combo Box** (Combo Box 2). Set Insertion Type to **Filtered Rows**.

8. Select **Labels** and select **'Master Data'!$C$4:$C$18**.
9. Select **Source Data** and select **'Master Data'!$C$4:$C$18**.
10. Select **Destination** and select **'Dashboard Values'!$F$4**,
11. Drop a **Spreadsheet Table** into the canvas. Select **'Dashboard Values'!$G$40:$L$42** in Display Data (i.e., the table under **To the Dashboard**).
12. Save the Xcelsius file. Export to PDF..

In the resulting PDF, the quarterly sales by All Products for the entire Company can be seen. Alternately, select individual areas of the company and products.

Conclusion

This method can be expanded to report on much larger data sets. I have created dashboards with data with as many as 15000 rows for each of the queries. Be aware that the time taken for results to show in the PDFs after selection can take up to three seconds for such large data amounts.

Enjoy creating Xcelsius Dashboards!

Related Content

Xcelsius Gurus - Top 10 Excel Tips for Success

A Six-Step Approach to Design an Xcelsius Dashboard

Creating Dashboards with Xcelsius 2008

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